



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,393	01/28/2004	Kristy A. Campbell	M4065.0644/P644	2523
24998	7590	05/16/2005		
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L Street, NW Washington, DC 20037				EXAMINER LUHRS, MICHAEL K
				ART UNIT 2824
				PAPER NUMBER

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/765,393	CAMPBELL, KRISTY A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael K. Luhrs	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 April 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 61-119 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 61-119 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION**

***Election/Restrictions***

**DETAILED ACTION**

1. This action is responsive to communications: Applicant's Election/restriction response of 4/21/05.
2. Claims 1 - 143 are pending in this case. Claims 1, 31, 40, 61, 89, 99, 120, 130, 140, 141, 142, and 143 are independent claims.

***Claim Objections***

3. Claim 39 objected to because of the following informalities: Claim 39 cannot depend on itself.

Appropriate correction is required.

***Election/Restrictions***

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1 – 60 and 140 - 143, drawn to layer structure of memory element, classified in class 257, subclass 42.
  - II. Claims 61 - 119, drawn to a method of forming a memory element, classified in class 438, subclass 102.
  - III. Claims 120 – 139, drawn to a method of operating a memory element, classified in class 365, subclass 163.
5. The inventions are distinct, each from the other because of the following reasons:

Inventions I, II, and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are Group I, substantially directed towards layer structure of memory element, Group II, substantially directed towards method of forming a memory element, and Group III, substantially directed towards method of operating a memory element.
6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at

Art Unit: 2824

least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the -fee required under 37 CFR 1.17(i).

8. During a telephone conversation with (examiner Dang Nguyen) and Slas Ryan on Tuesday Feb. 15, 2005 a provisional election was made without traverse to prosecute the invention of Group II claims 61 - 119. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1 – 60, 140-143 and 120 - 139 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

*Election/Restrictions (Second towards SPECIES)*

9. Restriction to one of the following inventions is required under 35 U.S.C. 121:  
10. Claims 61-88 and 89-98, and 99-119 drawn to method, were elected, classified in class 438, subclass 102.

11. This application contains claims directed to the following patentably distinct species of the claimed invention:

- a. Species 1: 1<sup>st</sup> embodiment, Figure 1C.
- b. Species 2: 2<sup>nd</sup> embodiment, Figures 2A.
- c. Species 3: 3<sup>rd</sup> embodiment, Figures 2C-2F.

12. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there is no generic. The examiner suggests that independent claim 61 having the metal-containing layer *adjacent* the resistance variable layer, i.e. is drawn to species 2, whereas the 1<sup>st</sup> and 2<sup>nd</sup> electrode and doped chalcogenide glass with polarizable metal-chalcogenide regions *within* glass backbone of claim 89, to species 1, and, claim 99 having the *bond*, i.e. metal-containing layer to the chalcogenide glass is species 3.

13. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

14. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as

Art Unit: 2824

provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

15. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

16. A telephone call was made to Attorney James Derry 202-777-2598 (by examiner Michael K. Luhrs) on 3/17/05 to request an oral election to the above restriction requirement, but did not result in an election being made.

17. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

*Response to "Response to Election"*

18. The "Response to Election/Restriction Requirement" filed on 4/21/05 electing Invention I device claims is apparently an improper response, because the applicant already elected Group II method claims, telephonically, on Tuesday Feb. 15, 2005 and so the claims identified by the applicant's response not drawn to the species as identified by the examiner, is apparently improper. Hence the applicant's claims "1-60 and 140-143, for continued examination without traverse" now being selected are 'presenting only claims drawn to a non-elected invention as being non-responsive' (MPEP § 821.03).

19. Since the above-mentioned response appears to be a *bona fide* attempt to reply, applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY (30) DAYS, whichever is longer, from the mailing date of this notice within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD UNDER 37 CFR 1.136(a) ARE AVAILABLE.

20. Once again, the examiner is expecting a species election drawn to the different Method species that were identified in item 11, above. Hence it would be expected that claims drawn to Method would be identified.

*Conclusion*

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael K. Luhrs whose telephone number is 571-272-1874. The examiner can normally be reached on M-F, 8-5.

Art Unit: 2824

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael K. Luhrs  
5/4/05

  
OLIK CHAUDHURI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800